Assessing & Treating APDs: “Playing” it old school

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Continuum of Processing

- Detect, analyze, & synthesize
- Attach meaning & integrate information
- Organize, execute a response, maintain focus

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Another way to “look” at process

Executive functions
Language & learning
Sensory processing

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<table>
<thead>
<tr>
<th>Processing Level</th>
<th>Anatomic Location</th>
<th>Processing Skills</th>
<th>Assessment Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auditory</td>
<td>Outer, middle, inner ear, 8th nerve, Right Heschl’s gyrus, CC</td>
<td>Auditory Acuity, localization</td>
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</tr>
<tr>
<td>Phonologic</td>
<td>Wernicke’s area, temporal lobe</td>
<td>Auditory Acuity</td>
<td>Auditory Acuity</td>
</tr>
<tr>
<td>Linguistic</td>
<td>Temporal lobe</td>
<td>Auditory Acuity</td>
<td>Auditory Acuity</td>
</tr>
<tr>
<td>Sensory Functions</td>
<td>Auditory/Visual</td>
<td>Auditory Acuity</td>
<td>Auditory Acuity</td>
</tr>
</tbody>
</table>

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Common Core Standards in Speaking & Listening

- CCSS.ELA-literacy.CCRA.SL.1
  - Prepare for/participate in conversations with diverse partners, building on others’ ideas & expressing own clearly and persuasively
- CCSS.ELA-literacy.CCRA.SL.2
  - Integrate & evaluate information presented in diverse media/formats, incl. visually and orally
- CCSS.ELA-literacy.CCRA.SL.3
  - Evaluate speaker’s point of view, reasoning, and use of evidence and rhetoric
Remediation for CAPDs

• Auditory/non-auditory training
  – bottom-up therapy, plasticity-based
  – auditory, although not exclusively, stimuli
  – stimuli are repetitive
  – max number of responses elicited
  – feedback on accuracy provided
  – activities adaptive, systematic, and varied

Remediation for CAPDs

• Linguistic-Cognitive therapy
  – top-down therapy
  – based on neurocognitive theory
  – concept-driven
  – teaches compensatory strategies
    • metalinguistic
    • metamemory
    • metacognitive
    • self-advocacy

Acoustic emphasis – bottom up

• Localization – brainstem function
• Auditory analysis – cortical (left hemisphere)
  – discrimination
  – identification
  – recognition
• Dichotic listening – cortical (RH, LH, CC)
• Temporal patterning – right hemisphere
  – Diadochokinetics
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**Localization**
- Marco Polo
- “find my keys”
- “where am I”

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**Auditory analysis**
- Discrimination – always a choice of two
- Identification – always a closed set
- Recognition – open set (anything goes)
  - ending sound game

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- Dichotic listening
  - But what if you don’t have headphones and a two-channel recording?
- Temporal patterning
  - melodic patterns
  - rhythmic patterns
  - diadochokinetcs
**Slide 13: Phonemic/linguistic emphasis—bottom up to top-down**

- Phonemic awareness/Synthesis
  - sound blending and manipulation
- Rhyming
- Auditory closure
  - fill-in-the-blank
- Memory for what we hear
  - direction following barrier games
- Lipreading/speechreading
  - always in a closed set
  - compound words work best

**Slide 14: Executive function—bottom-up and top-down**

- Auditory vigilance
- Interhemispheric transfer
- Prosody
- Working memory—manipulating information
- Noise tolerance

**Slide 15: vigilance**

- Waiting for something to change
  - Musical chairs
  - Simon says
  - Red light, green light
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**Interhemispheric integration**

- “feely bag”
  - motor to verbal
  - verbal to motor
  - simple to complex
- Name that tune
- Virtually any whole body activity that requires midline crossing

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**Prosody**

- basic emotion words: happy, sad, angry, afraid
- degrees of ...
- name that emotion

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- Working memory
  - password
  - three of a kind
  - categorization
  - word match
- Noise tolerance
  - any of these games played with varying levels of background noise
<table>
<thead>
<tr>
<th>Level</th>
<th>System Task</th>
<th>Management</th>
<th>Treatment examples</th>
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<tbody>
<tr>
<td>Acoustic  (AUD)</td>
<td>Receiving the signal/intact transmission – I &quot;hear it&quot;</td>
<td>Focus on quality of ACOUSTIC signal and environment</td>
<td>Acoustic training, discrimination training, discrimination and recognition training, auditory training</td>
</tr>
<tr>
<td>Phonologic (AUD &amp; SLP)</td>
<td>Understanding signal and structureONUSITC – I &quot;know it&quot;</td>
<td>Focus on quantity and structure of ACOUSTIC sound</td>
<td>Sound blending, analysis, synthesis, sound analysis and association</td>
</tr>
<tr>
<td>Language (SLP)</td>
<td>Planning, reasoning, integration – I &quot;can&quot; understand it</td>
<td>Focus on grammatical and structural integration</td>
<td>Written expression, oral expression, comprehension, speaking, writing</td>
</tr>
<tr>
<td>Executive Functions</td>
<td>Working memory, organization, regulation – I &quot;can&quot; use it</td>
<td>Focus on ease of expression, speed of processing</td>
<td>Role-play, pragmatics, work on impulse control, judgment and interpretation</td>
</tr>
</tbody>
</table>

And remember - Just because it's work doesn't mean it can't be fun!